

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-26 and 59-61, drawn to a signal processing method and system, to obtain a frequency spectrum defined by a set of nonzero amplitude values for a corresponding set of frequencies, said frequency spectrum including a number of said nonzero amplitude values at irregularly spaced frequency intervals, wherein said nonzero amplitude values include a first nonzero amplitude value at a first frequency value and a second nonzero amplitude value greater than said first nonzero amplitude value at a second frequency and said second frequency is a noninteger multiple of each frequency of said set of frequencies other than said second frequency, classified in class 600, subclass 453.
- II. Claims 27-34, drawn to a signal processing method, to obtain a frequency spectrum including a first pair of first and second successive nonzero amplitude values associated with first and second successive frequencies, and a second pair of third and fourth successive amplitude values associated with third and fourth successive frequencies, where a difference between said first and second frequencies is different than a difference between said third and fourth frequencies, classified in class 600, subclass 454.

- III. Claims 35-40 and 62, drawn a signal processing method and system by receiving time-based information corresponding to a defined time interval of a time-based, medical diagnostic signal, wherein said time-based signal includes a component having a period that is at least twice said time interval to obtain a spectrum that includes first, second and third successive nonzero values associated with first, second and third successive frequencies, where a difference between said first and second frequencies is different than a difference between said second and third frequencies, classified in class 600, subclass 456.
- IV. Claims 41-46 and 63, drawn to a signal processing method and system, to obtain a frequency spectrum for a time-based signal, wherein said spectrum defines a substantially continuous function across a frequency range wherein said function has nonzero values for a majority of frequencies of said range, classified in class 600, subclass 457.
- V. Claims 47-58 and 64-74, drawn to a signal processing method and system for receiving time-based medical diagnostic information corresponding to a defined time interval of a time-based signal, wherein said time-based signal is an analog signal and said time-based information is digital time-based information to obtain a frequency spectrum for said time-based signal involving accounting for a digitization error associated with a difference between said analog time-based signal and said digital time-based information; and classified in class 600, subclass 437.

- VI. Claims 75-77, drawn to a signal processing method for establishing an amplitude function corresponding to a detected medical diagnostic signal as a vector of discrete frequencies starting at a selectable frequency of interest, classified in class 324, subclass 300.
- VII. Claim 78, drawn to a signal processing method for establishing an amplitude function corresponding to a detected medical diagnostic signal as a vector of discrete, irregularly spaced frequencies, classified in class 600, subclass 300.
- VIII. Claim 79, drawn to a signal processing method for establishing an amplitude function corresponding to a detected medical diagnostic signal as a plurality of non-orthogonal functions, classified in class 600, subclass 300.
- IX. Claim 80, drawn to a signal processing method for establishing an amplitude function corresponding to a detected medical diagnostic signal as a plurality of non-normalized functions, classified in class 600, subclass 300.
- X. Claim 81-85, drawn to a signal processing method for establishing an amplitude function corresponding to a detected medical diagnostic signal as a plurality of functions that are one of continuous and piecewise continuous, classified in class 600, subclass 300.
- XI. Claim 86-88, drawn to a signal processing method for establishing an amplitude function based on a detected medical diagnostic signal using a

least squared error function, where the least squared error function is modeled as a quadratic programming problem with constraints on the values of one or more variables, classified in class 324, subclass 300.

- XII. Claim 89-91, drawn to a signal processing method for establishing an amplitude function based on the detected medical diagnostic signal using a least absolute value function, where the least absolute value function is modeled as a linear program with constraints on the values of one or more variables, classified in class 324, subclass 300.
- XIII. Claim 92-95, drawn to a signal processing method to obtain a frequency spectrum defined by a set of nonzero amplitude values for a corresponding set of frequencies, wherein the number of amplitude values of said set and said frequencies are predetermined, classified in class 324, subclass 310.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-XIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions, are not capable of use together and they have different modes of operation, and effects.

Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above

and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement

Art Unit: 3737

will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

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Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN F. RAMIREZ whose telephone number is (571)272-8685. The examiner can normally be reached on (Mon-Fri) 7:00 - 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian L Casler/
Supervisory Patent Examiner, Art
Unit 3737

/J. F. R./
Examiner, Art Unit 3737